Introduction

Indian textiles are renowned for its rich decorating textiles because of the availability of adequate natural resources. Diverse geographical regions and climate provide a wide range of plant fibers and natural dyes. The varied culture of India is reflected in the values and thought of Indian people. Also, the fascinating colours of textiles and decoration play an important part in the ethics of people. In Rajasthan, textiles are not only restricted to protection but it has some spiritual and religion aspects also.

In India, three traditional techniques are mostly used in textile decorations which are resist dye, embroidery and weaving. Handloom textiles of India are basically weft faced in which weft are interlaced with warps and then they are beaten down to cover them entirely. Earlier weavers used handspun and naturally dyed yarns but now the yarns are machine spun and synthetic dyes are used (Gillow and Bernard, 1993).

Indian handlooms are indispensable part of Indian cultural which are famous for its richness, fine quality and variety. From Kashmir to Kanyakumari, each region is known for its own handloom techniques that create unique fabrics. With the passage of time; colours, designs and patterns have changed but importance of handloom still remains the same. Handloom is the largest cottage industry and various looms are engaged in weaving to provide livelihood to millions of families. The art of weaving is passing from generation to generation which help to keep alive the beauty of traditional textiles. Patterns which are used in weaving are the amalgam of faith, symbol, myth and imagination. Due to the distinct identity of each region, the textiles differ in weave, colour and patterns.

From past few decades, modernization and industrialization has led to the change in the tradition textiles which results in the reduction of quality and increase in production. Beside all these changes, some communities still manage to retain their traditional textiles practices because they want to preserve their old customs and values.

Princely state Rajasthan is known to be one of the oldest civilizations because excavations had yielded ceramic paintings and textiles. The primitive communities of Rajasthan have always retained their indigenous craft. Rajasthan was earlier known as Rajputana, land of *Rajputs* or ‘sons of kings’ (Bhandari, 2005).

From royal families to nomadic tribes, each strata of people has its unique textiles and costumes. With the passage of time, new fabrics and designs have been introduced but still there is very little change in the costumes of people. In India, weaving is predominantly a cottage industry whereas in Rajasthan, the village weaver has been the community's sole source of fabric. Here loom has an indispensable position in the cultural lives of people. With the new innovation in Indian textile sector, machine made fabrics are fast replacing handlooms. But still some regions of Rajasthan are still practising their hereditary craft in traditional designs (Bhandari, 2005).

Terrain of western Rajasthan is known for their traditional wear which are shawls and blankets. These shawls and blankets are termed as *pattu* which is derived from the word *patti* meaning a narrow strip. Weaving of these textile is practised at Jodhpur, Jaiselmer, Barmer and surrounding villages. *Pattu* is worn by both men and women. Twill weave is used to weave fabric on a pit loom; also interlocking and extra weft figuring technique is used to create various patterns. For the extra weft figuring technique, an extra weft is wound on a small stick that is passed between a minimum of two and maximum of twelve pick. By using extra weft technique, embroidery like effect can be achieved without using jacquard machine (Bhandari, 2005).

Pattu weaving is the example of extra or supplementary weft technique. It is a special art of weaving in which extra weft is introduced in the weave to create some unique patterns which looks like embroidery. These extra wefts are usually thicker than the ground yarn and has different colour from the ground weave.

Pattu are categorized under the woollen textile items of Rajasthan. In Rajasthan kota saree and *pattu* weaving are only textile items which are woven with extra weft inserting technique by creating various geometrical and floral patterns. There are five types of *pattu* shawl which are *pattubharat* shawl, *pattu* border shawl, *pattu*kinari shawl and plain *pattu* shawl. Also *pattubharat* blankets are also woven by the weavers (Babel, 2004).

Decorative *pattu* with chequered patterns are worn by women and young men while plain *pattu* is used by older men. Meghwal is also called as *pattu* weaving community. People of Meghwal community constitute *pattu* as an important element in their local rituals. *Pattu* were earlier used as gifts which were given to groom's family at the time of marriage alliance (www.cohands.in).

1.1 Status of weavers in handloom weaving

Handloom sector is an ancient cottage industry which is largely household based and has a decentralized setup scattered in every parts of the country. A number of people are employed in weaving. Most of the handloom units are hereditary in which each member of the house is involved and thus, the household has taken a place of handloom weaving unit. A number of families in villages are only depended upon weaving. After being employed, the economic conditions of weavers are still not self-sufficient. Due to commercialization and modernization, the handloom weavers are facing competition with organized sector. Thus, the weavers are giving up their traditional jobs which results in dying of primitive weaving craft. Also there are not many beneficial policies which can lift up the condition of artisans. Data regarding socio-economic profile can help policy makers to frame new policies and improve the status of weavers. The present research is planned to study the socio-economic conditions of these weavers.

1.2 Changes in weaving techniques from past to present

Today due to technological advancements new developments can be seen in handwoven textiles related to colours, design, raw materials and manufacturing process. Since past, handloom weaving has undergone many changes to improve their marketing practices. Various factors are responsible for these changes, such as demand of consumers, high prices of raw materials and change in fashion trends. Still the status of some weavers has not much improved. Weavers are using raw materials which are cheaper in price also; intricate patterns are obsoleting which compel weavers to changes their traditional techniques. Apart from this the weavers were not being able to compete with mill made textiles. Development is necessary in handloom weaving in terms of new designs and products to compete with machine made fabrics. Present study will investigate these changes and find out the responsible factors. An attempt will also being done to preserve languishing craft by documentation.

1.3 Marketing of handmade textiles

Textile craft of India plays an important role in country's economy and was practised since ages. Due to weakened marketing practices some of these crafts are languishing which make socio-economic conditions of weavers very feeble. Due to industrialization, machine made textile industries are growing faster which increases the competition for handloom weavers.

Textiles developed on handlooms include traditional practices in which work is to be done manually in every stage of textile manufacturing. Weaving of single cloth takes time which simultaneously increases the cost of fabric. The production of mill textiles is much faster, takes less time and not laborious which reduce the price of fabric. From past few decades, weavers were adopting new practices, such as change in raw materials, colours and designs but it did not improve their economic conditions. All these factors make handloom weavers impoverished and force them to join other jobs. Therefore, the marketing of handloom textiles are difficult which led to the decline in growth of this industry. Thus, the research will study the marketing practices and will try to identify the factors which are responsible for the decline in handloom weaving craft.

1.4 Need of design interventions in hand woven textiles

Designs in hand woven textiles are mostly inspirations from nature, colours of flora and fauna, animals etc. which inveigle consumers to buy. Over the past few years craft sector is facing many challenges such as obsolete in traditional textile techniques and high price in raw materials. The major fundamental challenge of this sector is lack of innovative designs and inadequate fashion marketing strategies. In the era of globalization, customers start to follow latest fashion trend. Thus, there is a need to collaborate handloom textiles with latest fashion to produce innovative designs and products which will cater to the need of consumers. By adopting new techniques, marketing of weaving, craft be sustainable. Therefore, an attempt will be made to develop new design and products.

Significance of the study

Present research aims to throw light on *pattu* weaving of western Rajasthan. Due to industrialization machine made fabrics are fast replacing traditional handlooms, as a result some traditional textiles are well known by consumers. Many families in villages are depending upon handloom for their livelihood. But the socio-economic conditions of these employed weavers are very poor. Present research will be planned to study in detail the socio-economic conditions of *pattu* weavers and their problems related to this craft. Working conditions of weavers and surrounding will also be recorded to cover every facets of *pattu* weaving.

Many challenges are faced by handloom weaving related to marketing and demand of consumers. Therefore, the study will also focus on marketing practices of *pattu* weaving in

western Rajasthan, since with the understanding of marketing strategies of *pattu*, problems and challenges of this craft will be addressed. Over the past years industrial revolution has brought change in the raw materials, designs, colours, and production techniques. Thus, the research will elicit information on *pattu* textiles and will find out the present status of this craft

Today with the use of jacquard machines, various intricate patterns are created but still it cannot compete with the beauty of traditional handloom weaving. *Pattu* weaving is one such example of handloom weaving which are struggling with machine made textiles. Thus, an attempt will be done by the researcher to rejuvenate hereditary craft of western Rajasthan by developing a range of apparel for young women using *pattu* design. New design and motifs will be developed by taking inspiration from old *pattu* designs. By using these new designs a new garment line will be created with latest fashion trends.

The main objectives of the study are -

- To study the present status and identify the changes of *pattu* weaving in terms of its design, colour, fabric and techniques used.
- To study the socio-economic profile and working condition of *pattu* weavers.
- To analyse the market and various marketing practices for *pattu* weaving.
- To develop and find the acceptability of the garment line of indo-western outfits using *pattu* designs.

Review of Literature

Review of Literature is an essential prerequisite to the actual planning and execution of any research work. Literature review understands in knowing the trend of previous researches in the specific area of interest. The literature is divided into heads which are based on the planned objectives of *pattu*weaving of western Rajasthan. Present research focuses on the socio- economic status of weavers, marketing, present status and design intervention in *pattu* weaving. Therefore, in the present investigation, literature has been presented under following heads.

2.1 Theoretical review

2.1.1 Origin of craft and regions of *pattu* weaving

2.1.2 Profile of weavers in *pattu* weaving

2.1.3 Marketing of *Pattu*textiles

2.2 Research review

2.2.1 Socio-economic profile of weavers

2.2.2 Marketing of handloom weaving units

2.2.3 Changes from past to present in handwoven textiles

2.2.4 Design intervention of handmade textiles

2.1 Theoretical review

2.1.1 Origin of craft and regions of *pattu* weaving

According to Sagar (2015), 80 year old weaver Miyaram was the oldest surviving member of the community who told a story that Lord Shiva gave a seed of cotton out of his forehead to a weaver who was one of his ancestors. The weaver named Adhrak sowed the seed and spun the extracted fiber and started weaving. Subsequently, *pattu*started being woven. However, it was unable to find out that how old the craft was.

The craft was widely practiced in the regions of Phalodi, Bikaner, Naguar, Barnmer and Pokhran. However from past years the craft is only limited in the regions of Barmer and Pokhran districts (Sagar, 2015).

2.1.2 Profile of weavers in *pattu* weaving

*Pattu*weaving is a hereditary craft practised by menfolk of Meghwal community. The children of this community were initiated into the task from the age of 8-10 years. Weavers were working independently and under NGO officials. The financial status of weavers working for NGO was much better than independent weaver because NGO give sufficient salary to the weavers. Beside this weavers also engaged in other alternative occupations.

2.1.3 Marketing of *Pattu*textiles

Traditionally woollen shawls are majorly woven by weavers using *pattu* designs but presently weavers under NGO (at Pokhran) had introduced new products such as, kurtis, dupattas, bags and cushion covers. Village weavers around Pokhran were working under NGO. While village weavers around Barmer district were working under master craftsperson. However no products were made at Barmer and only shawls and *pattu* cloth were produced. Independent weavers sold their products in local markets, fairs or through middlemen to cities. NGO officials sold their products in both Indian and international markets. The weavers were practising weaving because they only want to sustain the craft. Profit margin in*pattu* was very less and the use of *pattu* had been declined from past years (Sagar, 2015).

2.2 Research review

2.2.1 Socio- economic profile of weavers

Bansal (1994) studied the socio-economic status of weavers at Himanchal Pradesh. Structures of shawl producing units were studied by understanding the production process and technique used by weavers along with its marketing. Problems of weavers and manufactures in shawl industry were also identified. The study was carried out in districts of Himachal Pradesh where shawl weaving units exist. Multistage sampling was used for the collection of data. Out of the five districts, 67 villages and towns were selected and 199 persons were interviewed for representative sampling. Five districts were *Chamba, Kangra, Mandi, Kullu* and *Kinnaur.* The art of shawl weaving was done in winter months. Weaving in this state was not restricted to any religion but the weavers interviewed were Hindu except in Kinnaur they

were Buddhist in religion. Majority of the weavers were illiterate and very few had studied upto senior secondary level. Majority of the weavers were married and living in joint as well as nuclear family system. Shawl weaving in this state was their family craft and most of the family members were involved in it. Along with weaving agriculture and labour in the fields were the other occupations. The economic conditions of the weavers were not good. Also the weavers want their children to continue their hereditary craft because it was beyond their reach to send their children for studies to cities. Two types of units were working in the production of shawl which was commercial and household units. Desi wool and *raffal* were used for weaving *Kinnauri*shawls while desi, *raffal,* pashmina, angora wool were used for weaving Kullu shawls. Kinnauri shawl were more intricate that *kullu* shawls. Due to increase in commercialization shawls were seen in both *Kullu* and *Kinnauri* motifs. Problems were also identified which shows that price of raw materials were very high. Irregular supply of electricity in winter times result in the decrease in productivity of textiles. Also cooperative societies were working like private units where most of the weavers were exploited as there were no provisions of any service which benefit them like leave, medical facility and after security services. The researcher concluded that all the provided information could help the policy makers to revise the existing policies and frame new policies.

Babel (2004) compares the profile of urban and rural based handloom weaving units of Rajasthan. The objectives of the research were to study the characteristics and functional structure of handloom weaving units and to study their mode of production. Income generation, marketing pattern, production output and profits of these units were analysed. The performances of weavers were also examined by their gender difference. At last the problems of urban and rural handloom units were identified and some measures were suggested. Multi- stage sampling design was selected as the state is divided into six divisions and each division has 5-8 districts. For representative sampling, each division, one district, one block and one village were selected on the basis of highest number of handloom weaving unit. Thirty units were chosen from each division (15 from urban and 15 from rural area. Thus a total of 180 handloom units were selected. Result shows that in urban units majority of the respondents (84.4%) and in rural (90%) were male and the rest were female. All the female respondents were from the units of Kota districts. All female respondents were literate and amongst male respondents 73.83% studied upto middle education and rest were illiterate. Around 58% of respondents were Hindu and rest percent were Muslims. Respondents were only depended upon the handloom weaving for their livelihood while only 7% of the units

had other occupations along with handloom weaving. Majority of the respondents were working at their own residence and only 12 units had hired labours. Weavers used fly and throw shuttle pit loom and fly shuttle frame loom. Most of the units produce cotton and woollen textiles. Cotton handloom weaving units were in Kota and Jaipur while woollen textiles were produce in Nagore, Bikaner and Barmer district. Shawl tweed and blanket were made in woollen handloom units whereas Khees saris, furnishing fabrics, handloom durries, napkins, towels and plain fabric were produce from cotton handloom unit. Dyeing was done in 25% of the unit. For weaving of cotton and woollen textile, plain and twill weave were used. Designing of textiles was done by using geometrical, floral motifs and patterns. Problems of weavers were identified which shows that majority of the weavers face financial problems. On the basis of the findings, the researcher concluded that literacy levels of weavers must be improved through adult education programmes. Training programmes could also be organized for the weavers in units to increase the production.

Tanushree (2015) reported various problems faced by handloom weavers of Varanasi in Uttar Pradesh. Research was planned to study the effect of industrialization and problems of weavers. In the urban belt of Varanasi only one handloom and powerloom cluster was selected purposively. From each cluster 50 handloom weavers and 50 powerloom weavers were chosen by snowball sampling. It was found that production system in handloom sector was controlled by entrepreneurial class called *Gaddidar*or master weaver. They control over the production unit and labour. Data revealed that 20 percent weavers were engaged in handloom industry while 80 percent weavers were working in power loom sector. Many weavers of Varanasi switched over to power loom industries because of getting better earning. Monthly income of handloom weaver was rupees 1800 to rupees 3000 whereas income of poweloom weaver was about 4500 to 9000 Rs. In handloom sector weavers were skilled and their job is labour intensive still they receive low wages. Master weaver offer post-dated cheque to weavers and they face financial crisis with no bank account, weaver gives that cheque to another man who provides reduced cash instead of actual amount. Weavers of Banasrasi handloom saree were exploited. Thus, these skilled artisans had left handloom weaving and migrated to Surat, Gujrat and Bangalore for better income. It was concluded that policy maker should realize the importance of handloom sector and they should work for the upliftment for these weavers.

Ashraf et al (2016) found that various obstacles which were faced by the craftsmen and traders in pashmina sector. It was revealed that most common problem is the labour issues.

The average income of the artisans was 200-250/- per day which did not fulfil the basic necessities of artisans. Artisan weaving from machine spun yarn had higher income due to this the artisan who use hand spun yarn switching over to machine spun yarn. Weavers face financial problems because majority of the artisans do not have their own loom. Artisan spent majority of their time on working their loom and were unaware about the governmental schemes which are meant to benefit them. Due to poor economic conditions, weavers who were working independently could not fulfil the demand of consumers. Majority of the artisans were not registered with any group/associations/ governmental departments because they face difficulties to fulfil the registration procedure. Old weavers suffer from number of health problems and they had to do work due to their poor financial conditions. Earlier spinning was done by the women but the women giving up spinning is the major problem because hand spun yarn is becoming scare. The decrease in the supply of hand spun yarn, allows machine owners to produce more blended yarns. Traders revealed that fake selling of pashmina is the biggest threat to the industry and Amritsar shawl was the major threat to pashmina shawl because Amritsar shawl were being sold in the name of Pashmina shawl while in reality they were neither made in Kashmir nor they were manufactured from pure Pashmina.

Above literatures throw a light on socio-economic conditions of handloom weavers. Economic conditions of Himanchal Pradesh weavers reveals that majority of them were illiterate or studied upto senior secondary level. It was beyond their reach to send their children for studies to cities. Handloom weaving is a hereditary craft in which each member of family is involved. But they were not able to fulfil their basic amenities after being employed. Weavers in pashmina sector were unaware about the governmental schemes and some of them were not registered with any group or governmental organizations. Weavers working independently could not fulfil the demand of consumers. Similarly, weavers of handloom Varanasi sarees were exploited by master weavers which force them to left handloom sector. Majority of handloom weavers of Rajasthan were fully depend on weaving. Weavers of Rajasthan were illiterate and face financial problems. The conditions of weavers working in cooperative societies were very bad because the weavers were exploited.

2.2.2 Marketing of handloom weaving units

Sharma and Sharma (2009) reported that handloom weaving of kullu district is unique due to its design and motifs which carry mythological background. The research was conducted to

study in detail about the art of tribes in Kullu valley of Himachal Pradesh. The study reveals that weaving is done by men and women both using pit loom in their houses. The tribes of Himachal Pradesh are popular all over the world for weaving shawls, *pattus* and *lahang.* Weaving was basically done in winter months. A survey was conducted by selecting fifty commercial weaving units. Many big and small weavers at household cottage or industry are dependent upon handloom weaving for their living. Twenty eight percent of the respondents acquired this art by their family members while a large number of weavers are trained at cooperative societies. *Pattu, Patti* and *Dohru* or *Dohar* are the main woollen products developed in Kullu valley. *Pattu* is draped by women like sarong which is made of woollen fabric. They are plain or chequered in simple borders. Local tweed coats, jackets or trousers are known as *patti* which is woven from two fold hand spun natural white or brown local wool. Woollen blanket in coarser wool spun yarn is called as *Dohru.* The famous shawls of Himachal Pradesh are of two types i.e., Kinnauri shawl and Kullu shawl. Both shawls are known for its unique characteristics. *Kinnauri*shawl is famous for its intricate and fine weaving while kullu shawl is known for its unique process and technique. Researcher concluded that shawl weaving units of kullu had grown in past two decades but commercialization lead to decline in the quality of fabric.

Mishra and Pant (2015) studies the buying preferences for Kashmiri shawls. One hundred respondents were purposively selected who use shawls. The study was conducted at New Delhi and Lucknow and the respondents were belong to middle as well as higher income group. Result shows that all the respondents like to wear Kashmiri shawls. Data revealed that 23% consumers own one Kashmiri shawl, 33% owns two shawls, 28% possess three shawls, 11% had four shawls and only 5% consumers had more than five shawls. Majority of the respondents use Kashmiri shawls occasionally on parties, marriages and other family functions and very few consumers uses it frequently. Data was collected based on the expenditure of Kashmiri shawl by consumers. Forty six percent consumers spent less that Rs. 5000, 21% spent less than 10,000, 29% spent less than 15000. Hardly 4% consumers spent less than Rs. 15000 on shawls. An attempt had also been done by the researcher to find the purchase of shawls in last ten years. Result revealed that 44% consumers purchased two shawls, 24% purchased one shawl, 22% bought three shawls and only three consumers bought more than four shawls. Consumers also revealed that *amli*shawl was mostly preferred by the consumers followed by*kani* shawl. It was concluded that Kashmiri shawls were very much in demand but consumers wanted improvement in quality of stitches and motifs.

Sagar (2015) documented the *pattu* weaving of western Rajasthan. The objective of the research was to trace the origin and socio-cultural significance of *pattu* weaving. Present status and organizational working for sustenance of this craft were also studied. Suitable designs were also developed with respect to introduction to new designs. The study was conducted at six villages which was located in Jaisalmer and Barmer districts. The villages were Gomat, Thaat, Chacha in Pokharan and Bunia, Dhanau, Mithrau in Barmer. A total number of 90 weavers 6 dyers and 4 tailors were selected for the collection of primary data. Separate interview schedule were developed for weavers, dyers and tailors. Results revealed that *pattu*weaving is the hereditary craft practised by Meghwal community. An NGO UrmulMarusthaliVikasSamiti(UMBVS) in Pokhran was working for the promotion of this craft. Traditionally wool was used as a raw material which was procured from camel and sheep. Presently in both Barmer and Jaisalmer, wool was replaced by cotton. For weaving *pattu*shawls pit loom were being used. Twill weave is used to weave *pattu* shawls and various geometrical patterns were created through the use of extra weft which was usually of a colour in contrast to the base cloth. Traditional motifs have their own meaning but from past years new designs were developed at NGO. Traditional *pattu* were categorized into three types i.e. Plain *pattu*, Kashida and Baladi. Kashida*pattu* were categorize into two types which are Bhojasari*pattu* and malani*pattu*. Earlier white and black colours with red border were used to weave *pattu* but presently different colours were used to create motifs. The products woven by independent weavers were being sold in local markets and fairs. At NGO diverse products were made of *pattu* like kurta, bags, dupatta, cushion pillow covers etc. However, no products were made at Barmer, they were working with master person and develop *pattu* on contract basis. Researcher concluded that there was no difference in techniques of *pattu* weaving in both the regions. Financial conditions of independent weavers were not sufficient. Whereas, in NGO weavers were satisfied with their work.

Singh (2015) found that kani shawls of Kashmir were officially registered in GI registry of India under Handicraft goods from Jammu and Kashmir. The purpose of this study is to identify factors which predict the behaviour/characteristics/uniqueness of kani shawls in adopting GI certification. The craft is practised in the districts of Srinagar and some parts of districts of Anatrag, Budgam, Pulwama and Baramullah of Jammu and Kashmir. Kani shawls are woven using various wooden spokes in the place of shuttle. These spokes are termed as 'Tujlis' meaning eyeless. Kani shawls are a type of twill tapestry technique which can takes weeks to a year in manufacturing depending on the intricacy of embroidery. Kani shawls are

woven by following written instructions in the form of 'Talims' which is a written script consisting of precise instructions. These shawls are very lightweight, fine and also have a compact weave. Apart from the improvement in the Pashmina production and its price, weavers spend their life under poverty without having basic amenities. It was concluded from this research that GI registration become fruitless in J&K in general and in case of Kani shawl in particular.

Rawat (2017) reported in her study that kinnauri shawls are known for its intricate pattern and design which carry mythological background. The research was conducted to study in detail about the handicraft of Kinnaur. Majorly *dhoru, pattu,* shawls and stoles were made by the weavers on loom. Designs and motifs which are used by the weavers carry special religious significance. Motifs were inspired from the surroundings, i.e., nature and household. The popular weaving designs of *kinnaur* are *yaguma* or *chholopanma, Yashin, Kyumsayongrong, yongrong, darjesetham*and *Chhoktin.* Use of colours also indicates mythological background. Fine colours are used in the background. White colour indicate water, yellow for earth, red for fire, green for air and blue for ether. Kinnauri woollen textiles are famous for its intricate pattern and fineness. To facilitate the upliftment of weavers and artisans, Himachal Pradesh State Handicraft and Handloom sector was setup in 1974 by the government. The corporation work for revival of extinct art, design development, skill generation and organize workshop which help in the marketing of handloom and handicraft items with the help of emporia, exhibition and expositions. An innovation steps was also taken by the government by launching a website (www.himcraft.com) to facilitate e-shopping which make products available to the buyer. Kinnauri shawls also receive Geographical Indications (GI) tag. Under GI 1000 weavers are certify to weave shawls.

Attri (2017) stated that handloom industries of Himanchal Pradesh are facing many problems apart from various governmental and non-governmental schemes which were meant for the marketing of this sector. The study also elicits information on the shawls of Himanchal Pradesh. Shawls are basically the products of Kullu, Kinnaur, Chamba and upper part of Simour district which are used all over India. From past years loom industries of Ludhiana were manufacturing fake Himanchal shawls. Power loom produces thousand shawls in a day whereas one handloom shawl may take weeks to manufacture. Supplier of powerloom shawls also offer huge discount to tourists. To prevent Himanchal shawls from copied shawls in the Ludhiana belt, GI penalise up to 2 lakhs or imprisonment of 3 years or both. Now, kullu shawls are being sold after getting brand name 'BHUTTICO'. Researcher educe that

marketing is the most crucial problem which can be solved by selling their products directly from their looms to market.

Sharma and Gondotra (2017) stated that Punjab produces a variety of plain and fancy shawls and Ludhiana had maximum number of weaving units. The purpose of this research is to study the marketing pattern of power loom shawl weaving units in Ludhiana. For this, 60 power loom shawl units were randomly selected and interview schedule was formulated to collect the information. Data was groped into the tables and were analysed using frequency, mean and percentage. Relationship of the price of shawl and annual production of the units was also calculated using coefficient of correlation. It was found that 46 % units calculate cost of the shawl based on raw materials, 50% units calculate cost on the basis of labour consumed and 43% units add miscellaneous expenses which were sampling, finishing, packing, electricity and transportation. Price of shawls was fixed depending upon its size, type of raw material and design woven on shawls. It was revealed that there is significant correlation between annual production and price of all types of shawls. Type of future plans for expansion of units was found such as increase in number of loom, increase the number of factory outlets, increasing the number of weavers and expansion of export. Increasing the number of loom was mostly preferred choice. Majority of the respondents face problems regarding shortage of skilled labour, undisciplined labour and shortage of labour. Units also face problems in high prices of raw material, variation in quality of raw materials and inferior quality. It was concluded that most of the units have plans in the expansion of units and based on the data overall performance of the shawl weaving units were very impressive.

Researches on marketing of Pashmina had been studied to understand the marketing of weaving industry and also to identify that what beneficiary steps were taken by governmental for the upliftment of these crafts. Literature shows that middle and high income group consumers were keen to buy pashmina shawls. From few decades the sell had increased but the customers were not satisfied with the quality of because they were not intricate as were in previous due to commercialization. Counterfeit is the another major problem for handloom shawl weaving because powerloom shawls of Ludhiana were selling machine made textiles in the name of pashmina. To prevent fake selling of pashmina GI certification had been registered for the shawls of Himanchal Pradesh and Jammu and Kashmir. To facilitate the upliftment of weavers, government had organized workshops, emporia and exhibitions. Still the conditions of weavers were not good and handloom sector was declining.

2.2.3 Changes from past to present in handwoven textiles

Sharma, Kanwar and Rekha (2008) revealed that weavers working in handloom weaving units of Kullu district in Himachal Pradesh were not following their ancestral tradition and skill, the design, raw material and techniques were changing according to the need of modern buyers, resulting that the craft turn towards commercialization. The research was planned to study the current situation of handloom and handicraft of kullu district of Himachal Pradesh. The handicraft of Kullu district include, shawls, caps, borders, *pattoo, muffler, patti, thobi,numdha, gudma*, *kilta, patari,* etc. The result reveals that tradition craft has taken its turn towards fashion. The weavers were looking for avenues to preserve their traditional art and simultaneously fulfil the needs of modern buyers. With passage of time chemical dyes are being used instead of natural dyes. Also some changes occurred in design, motifs and pattern. Handicrafts of Kullu were famous for its bright colours, geometrical design, but now pastel colours are also in trend. Due to the limitation of time in geometrical design, extra weft woven shawl has been introduced to the industry. For making *pullans*, borders and embroidered *numdas,* acrylic yarns are preferred by the present weaver instead of woollen yarns which were used earlier. Necktie, woollen bags, ponchos and stoles were developed by cooperative society like*Bhuttico* and *Him bunker.* It was concluded by the research that young generation of weavers were not satisfy with this craft due to non-availability of raw material, insufficient quantity, poor quality and very high cost of raw material. The researcher suggested that quality of local woollen yarn should be improved by carrying out further research. Government should also impart some technical knowledge about loom as handloom weavers have to compete against power loom shawl manufacturers.

Bajwa and Marriya (2011) studied the revolutionary change in the manufacturing process of Jamawar shawls using jacquard and power loom that made these jamawar available at affordable prices. Jamawar shawls are made in Amritsar and are also known as kani shawl. Shawls were woven using twill tapestry technique. A total number of 35 units were selected out of 40 units using purposive sampling. Also one dyeing and finishing units were visited. Result shows that wool, cotton and nylon yarns were used that procured from Amritsar, Bombay and Ahmedabad. Soft quality wools were blended with nylon for warp and wool for weft. Sometimes mercerized cotton was also used to produce inferior quality shawls. Metal complex dyes, acid dyes were used in dyeing of yarn from local dyeing unit but for export quality shawls, azo free dyes were used. Design was prepared from designers on the graph paper and card punching was done using card punching machines. After preparation of loom

weaving was done. Post weaving operation were applied on the shawls such as visual checking, laboratories tests for quality, ends and picks, fastness to rubbing, water and sunlight. Drying of shawls was done in open air and then the shawls were sent to local finishing units. Shawl weaving units were also facing problems in price fluctions, vibrations in quality of raw materials, union activities of labour and shortage of trained labour. Suggestions were also given by the researcher that government need to provide subsidies like lowering the custom duty on imported machinery which enable to buy advanced machinery and bring down the cost of shawls.

Yaqoob et al (2012) states that, art of weaving pashmina shawls was carried out by both traditional and modern techniques. The research was done to understand the procedure of weaving pashmina shawl using traditional method. The objective was planned to ascertain the traditional processing methodology adapted by local weavers in Kashmir valley for shawl preparation. The research was carried out in three districts of Kashmir valley i.e. Srinagar, Budgam and Ganderbal. Results shows that harvesting of pashmina fibers was done in spring season. Sorting was mostly done by women manually followed by combing process. Pounded rice is applied for glueing of fibers. Spinning wheel termed as *yander*or *charkha* is used for spinning of fibres. The hanks were opened on wooden base *tanjoor* and were mounted on a wooden spindle *prech* for weaving process. After weaving of fabric finishing treatment were carried out. Finishing process include *purzgar, kasher*, washing, dyeing and stretching. The investigator found that shawl preparations were mostly carried out using traditional practices. By adapting all the traditional procedure, the shawl have long life and fetches higher price in the market, thus hand spun handmade shawl were significantly better than machine spun shawls. Hence, it was concluded by the researcher that traditional practices make the product durable and increase its life due to the absence of harsh chemicals and mechanical damages. Traditional procedure also leads to physical stress, numbness in legs, backache etc. Hence improvement in the processing tools could be done to reduce stress and increase the efficiency.

Mishra (2015) reported that shawl industry of Kashmir are facing many problems due to commercialization, such as low quality, fake products, decreased market and low income. The study was focus to find the problems due to these changes and the efforts which were done by government to save this industry. Pashmina shawls are one of the expensive shawls in the world but from few decades, use of power loom has decline the quality of shawls. These shawls were sold at half of the price of pashmina shawls. Researcher found that shawls

prepared using power looms were not 100% pashmina because pashmina fiber is very delicate and fragile which cannot withstand the vibrations caused by power looms. Blended fibers are used in weaving shawls that is, pashmina + merino wool, pashmina+ angora wool or pashmina with normal sheep wool. These blended yarns are strong than pure pashmina and are prepared by machine spinning. Only 68% of the weavers used traditional looms for pashmina shawl weaving from their home in villages. The economic conditions of these village weavers were not good while rich manufacturers were using power looms to speed up their production. Labels in pashmina shawls are always sewn and never glued. Pashmina are very soft in touch without shine. Also, when fibers are rubbed it never produces static charges. Effort had been done by the government to transplant a neon chip to original shawl which indicate the information. An authorized certificated had also provided to the retailers who can sell real pashmina. Handloom sector was also organized by the government for the small scale weavers and retailers where they can buy real pashmina fibers. Researcher concluded that counterfeit of pashmina had increased that needed to be stopped by government using many policies to protect the traditional art of the country.

Mishra and Pant (2015) found that the traditional craft of Kashmiri shawls are modernize and commercialized to increase the acceptability which result that quality of these shawls are degraded as compared to past. Objectives were planned to study the change in design of Kashmiri shawls and find out the factors responsible for these changes. Market need and demand were analysed. Problems of manufacturer and exporters were identified and sustainability aspect of Kashmiri shawl industry was studied. Research was conducted in Kashmir and New Delhi. For the collection of data 50 manufacturers, 20 embroiders, 50 retailers and 50 exporters were interviewed. Hundred consumers were also selected to get the views regarding change in shawl. Also eleven museum and emporium were visited. Result shows that blended yarn are used instead to pure pashmina fiber. Pashmina fiber is blended with superfine merino wool and also pashmina is blended with silk. Blending was also done with cotton, rayon and acrylic fibers by some of the manufacturers. Shawl weaving was purely a handmade process in earlier days but now machines were used to make process faster. Pashmina yarn was spun by woollen spinning system to speed up the process. Designing techniques had been expanded to fulfil the demand of consumers. Block printing was also done and application of lace was latest design technique for modern buyers. Woven designs were also combined with embroidered design. Shawls were prepared using blended yarns on power loom. For the translation of design into *talims* computer programmes has

been used instead of manual preparation of graph paper. Synthetic dyes were used such as acid dyes, metal complex dyes and reactive dyes instead of natural dyes. Colours had changed drastically from the past by using colours such as, vine, purple, olive, sky blue etc. The demand of Kashmiri shawls had increased rapidly in nation as well as in international market. *Kani*shawls were like by foreign clients while the demand of *Amli* shawl was more in domestic market. It had been observed by the researcher that motifs were more stylized and not as intricate as in past days. Respondents felt that colour combination was similar to the past. With the use of blended fibers, the quality of the fabric had gone. Consumers also felt that qualities of stitches were not fine and intricate as they were in previous. Low income, explosion in fake kashmiri shawls, scarcity of raw materials are some of the problems which make younger generation not interested in this craft.

Sharma and Gondotra (2017) reported the production pattern of powerloom shawl weaving units Ludhiana. The study was conducted at Ludhiana by selecting 60 power loom units using random sampling. Research reveals that majority of units use acrylic fibers followed by polyester, cotton and viscous. Only 8% of the units use pure wool fiber in the production of shawls. The fibers were procured from other cities within Punjab state. Data revealed that 50% of units employed skilled labour, 41% had semi-skilled labour and 48% had unskilled labour. Majorly the units produce Jamawar shawls. Other shawls produced by units were embroidered shawls, dobby shawls and printed shawls. It was concluded that shawls in Ludhiana was produced using varieties of fibers. The annual productions of shawls were very high and shawls are being exported to other countries also.

Commercialization in textile industry had brought changes in the design, colours, techniques, raw materials and production techniques in shawl weaving. It has been observed from the above studies that a revolutionary change can be seen from past few decades. Use of power loom in place of handloom lead to the decline in quality and increase in production. Traditional craft has taken its turn toward fashion. Colours had drastically changed from bright to pastel colour palate. Blended fibers are taking place of natural fibers. Also, synthetic dyes had been introduced in dyeing.

2.2.4 Design intervention of handmade textiles

Karolia and Prakash (2014) stated that in handloom sectors, the techniques of dyeing, weaving and printing were old. It could be revived through innovative researches by developing new designs and products according to the latest trends in the market. The investigation was done to study the hand woven textiles for the selected tribes of Nagaland Hence, the researcher felt to increase the visibility of this art. Therefore value addition was done by adding contemporary design which helps in wider market acceptability and improving economic standard of weavers**.** The objectives were planned to study the history, origin, weaving technique, motifs and significance of the hand woven shawls for three tribes of the state i.e., *Ao, Chakhesang and Lotha.* A wide range of products were developed which were inspired by the motifs of all three tribes of Nagaland. In India the art of spinning and weaving is mainly done by men but in Nagaland, weaving is exclusively done by women. Women weave shawl, carry bags, waistcoats and *melkhas*on back strap loom. Earlier loin loom and pit loom were used. The cloths were produced for their own consumption and were only available in the local market. Weavers use cotton, wool, and viscous rayon of one, two or four ply yarn. To complete one shawl, weavers take around 15- 30 days. The products were categorized under fashion accessories i.e., bags, belt and neckwear of three different types. To give these products a unique and diverse look, leather was also included in the products to increase its appeal. Also embellishments on these products were done which were inspired by the ornaments of Naga people. The evaluations of the products were carried out according to the colour appropriateness, placement of motifs, overall aesthetic appeal. Fifty respondents were selected to check the market acceptability of the developed products through questionnaire. The result shows that the products which were inspired by *Ao* tribes was rank first as the respondents found those products eye catchy, attractive and mysterious. *Chakhesang* was positioned at second and *Lotha* was ranked at third.

Shohrat, Saiyed and Bhatia (2016) stated that inspite that Patola of Gujrat has received Geographical Indication certificate, the craft is still languishing. Whereas, the art of single ikat weaving was thriving in the other districts of Gujrat. Mostly Patola is only woven using silk yarn, thus an attempt was done to develop new range of products using cotton yarns. The objective of the study was focused on the design practices of single ikat craft of Surendranagar in which new garments were developed. Designs were collected and analysed on the graph paper. These deigns were then drawn on Adobe Photoshop. Designs were divided into two categories i.e. Traditional and Contemporary designs. Ten different styles

were selected to develop the layout. Ten styles were explored in ten colour schemes. Total 100 layouts were prepared and the selection of styles and colours were given to the craftsmen. These designs were then transferred into the pattern which was used to develop garments. Also brand packaging was done to increase the sale of the developed garments. The garments were then displayed in the college and feedback was collected from them in terms of its aesthetic appeal, cost effectiveness and marketability.

Handwoven textiles are known its beautiful designs and colours but this industry is lacking behind because consumers are following latest trends and fashion. Keeping in mind some studies were done to add new innovative designs by diversifying products. Value addition had been done in the shawls of Nagaland by adding contemporary designs. Inspirations had also been taken from the research on single ikat weaving of Gujrat. Here the designs had been developed by using CAD and garments were developed. Use of computer designing was a revolutionary step which makes process easier for weavers.

Research Gap

Numerous researches had been conducted on handloom weaving of Himanchal Pradesh and Jammu & Kashmir. Weaving industries of Punjab were also studied. Pashmina shawls had been commercialized which result in degrade of its quality. Powerloom textiles of Punjab were too a threat to Kashmiri handwoven textiles. Socio-economic conditions and marketing of handloom weaving had been observed from literatures.

However, only one research was found related to *pattu*weaving of western Rajasthan. After identifying the research gaps it was felt that studies could be conducted on value addition of *pattu* weaving by product diversification. Also there is a wide scope for research in *pattu* weaving.

Methodology

Methodology is the scientific way of conducting any research which includes detailed description about the type of data needed, sampling designs, tools for data collection and data analysis. In present research *pattu*weaving of western Rajasthan will be explored by the researcher in order to study its origin, raw materials and status of weavers practising this craft. The aim of the research is to collect all the information regarding present status of craft, its marketing, socio-economic status of weavers, working condition of weavers and to compare *pattu*weaving of three districts of Rajasthan in terms of changes from past. The research will be carried out in the nearby villages around Barmer, Jaisalmer and Jodhpur districts. To fulfil all the objectives, the data will be gathered from primary and secondary sources. Present research is categorized under following heads.

3.1 Research design

3.2 Step I Present status of *pattu* weaving

3.2.1 Literature collection for *pattu* weaving

3.2.2 Sampling design

3.2.2.1 Locale of the study

3.2.2.2 Sample selection

3.2.2.3 Sample size

3.2.3 Methods of data collection

3.2.3.1 Survey

3.2.3.2 Observation

3.2.4 Tools and techniques of data collection

3.2.4.1 Interview schedule

3.2.5 Data analysis

3.3 Step II Design intervention

3.3.1 Development of women's indo western garments through weaving, printing and embellishment techniques

3.3.1.1 Design collection

3.3.1.2 Design development and colour selection

3.3.1.3 Designing

3.3.1.4 Measurement

3.3.1.5 Designing layout on CAD

3.3.1.6 Manufacturing of fabric

3.3.1.7 Garment development

3.3.1.8 Acceptability of the developed products

3.4 Limitations of the study

3.5 Pilot study

3.1 Research design

To implement the planned objectives, research design is framed by integrating different components of the study in a systematic way. Therefore research design was formulated to obtain first-hand information. To gather data regarding *pattu*weaving descriptive research design will be followed. *Pattu* weaving will be explored and information will be collected on the basis of marketing, its present status and to compare the differences in *pattu* craft at different regions of western Rajasthan.

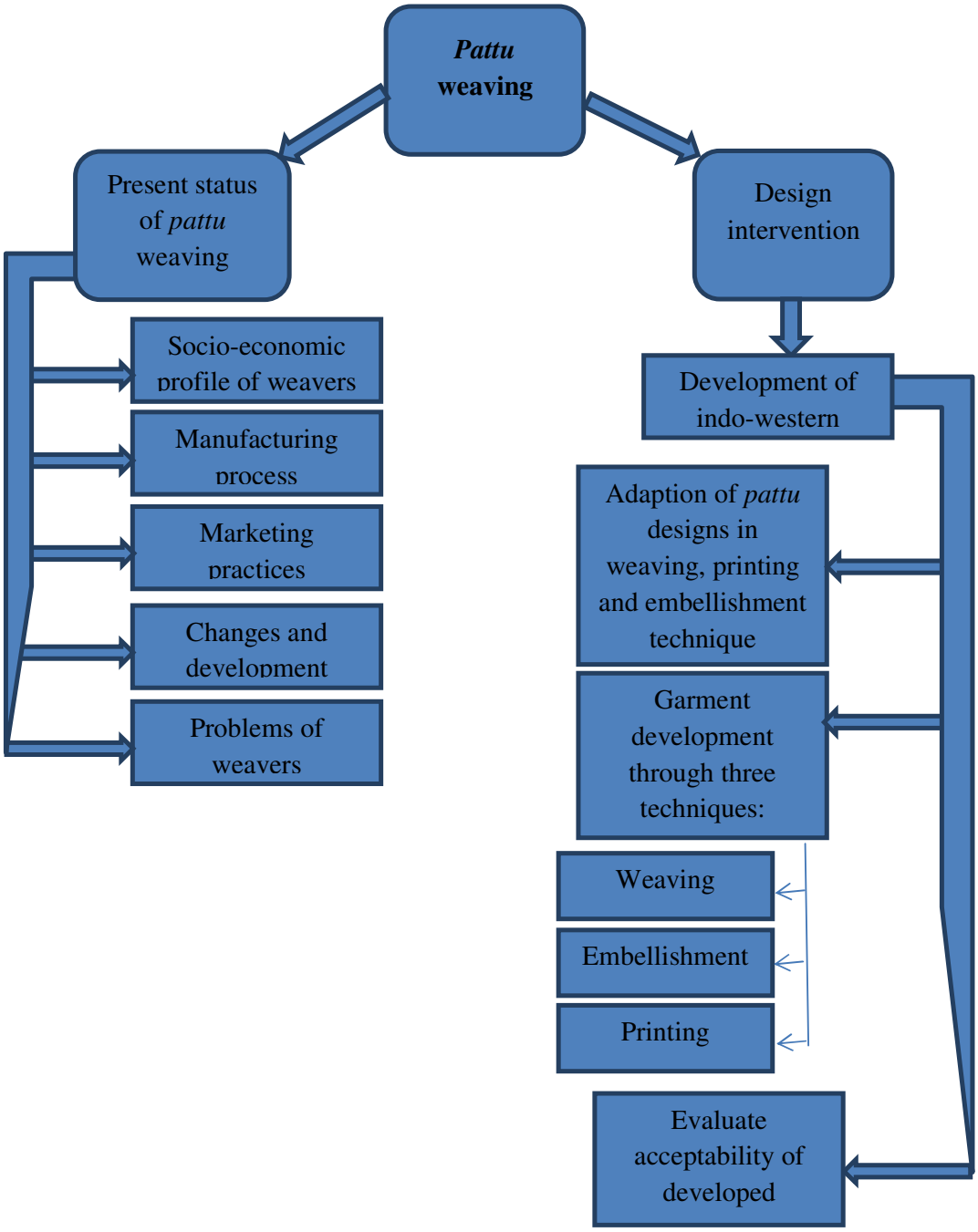


Figure 3.1: Conceptual framework

3.2 Step I Present status of *pattu* weaving

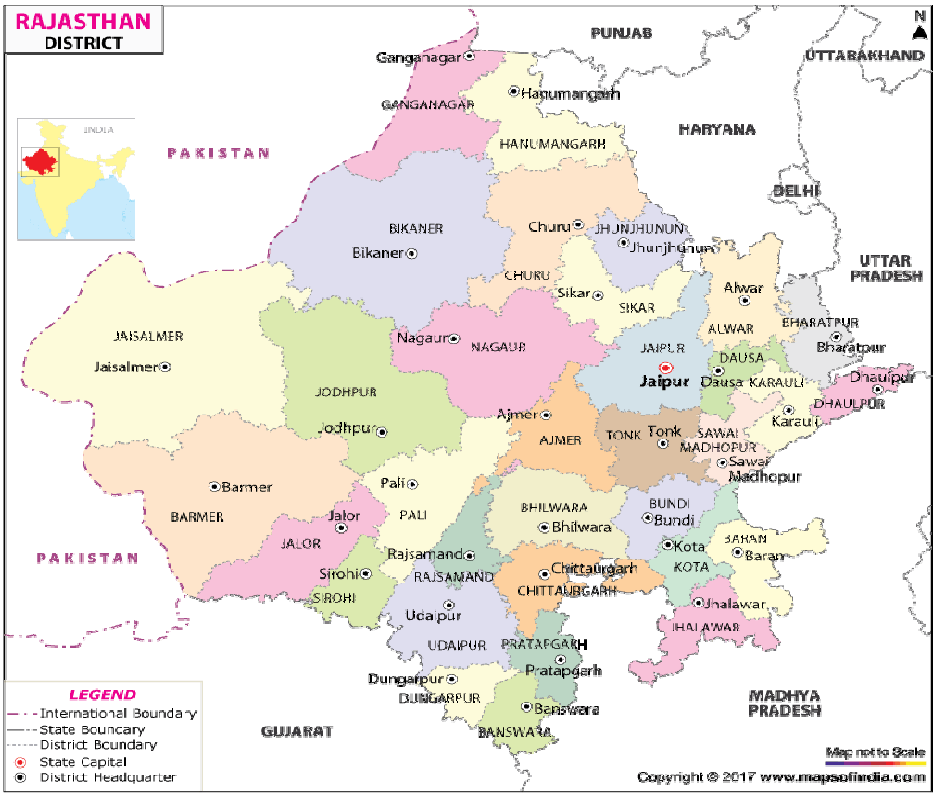
3.2.1 Literature collection for *pattu* weaving

In order to study the origin, raw materials, tools, motifs, status and working condition of artisans in *pattu* weaving, secondary data will be gathered by the investigator. The data will be collected by exhaustive review of literature and various museums and libraries will also be visited for the same.

3.2.2 Sampling design

3.2.2.1 Locale of the study

Literature review indicates that *pattu* weaving is practiced in the western regions of Rajasthan because of the availability of abundant wool which is procured from sheep and camel. Pilot study reveals that *pattu* weaving is only practised around three districts of western Rajasthan which are Barmer, Jaisalmer and Jodhpur. For the collection of primary information nearby villages of these districts will be surveyed.



Source: http://www.lkgames.info/180645-thar-desert-map.htm

Figure 3.2 Map of Rajasthan

3.2.2.2 Sample selection

The respondents were identified by visiting khadi fairs which was held at Jaipur. Also former research literature revealed that *pattu* weaving is practiced at three districts of western Rajasthan. The researcher will identify the village of these districts where the weavers are practising this craft. Selection of villages will be done by purposive sampling method. All the relevant information will be collected from weavers belong to these villages.

3.2.2.3 Sample size

It was found that there are 350 *pattu* weaving units at Barmer, 100 in Jaisalmer and 200 in Jodhpur. Data will be collected from weavers and one weaver will be selected from each unit. One hundred and forty weavers will be approached from Barmer, forty from Jaisalmer and eighty from Jodhpur. Figure 3.3 indicates the sample size.

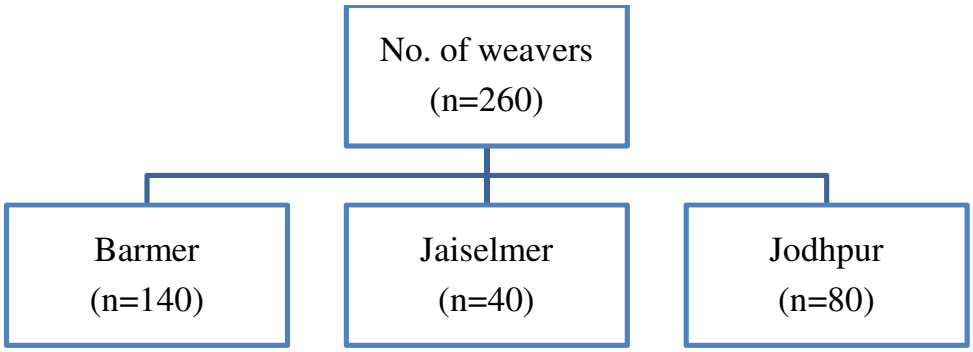


Figure 3.3 Sample size

Thus, a total number of 260 units will be surveyed by using purposive sampling method.

3.2.3 Methods of data collection

3.2.3.1 Survey

Survey method was selected for the collection of data as the research is descriptive in nature. The data will be collected with the help of interview schedule.

3.2.3.2 Observation

Observation is an excellent tool to fill gaps and barriers in communication. In observation, the investigator will observe and record the working condition of the weaving unit. For data collection, a semi-structured observation tools will be prepared in which all the variables such

as work area and surrounding will be observed recorded systematically according to pre-defined schedule. An observation checklist (Appendix II) will be developed to record collected data.

3.2.4 Tools and techniques of data collection

Collection of primary information will be done with the help of interview schedule. Interview schedule will help researcher to study the socio-economic profile of weavers along with their manufacturing procedure, marketing practices, changes from past to present and problems of weavers will be identified.

3.2.4.1 Interview schedule

In order to elicit the information, a direct conversation will be done from the respondents with the help of interview schedule (Appendix- I). An interview schedule will be framed by the investigator to gather in-depth information about *pattu*textile weaving. Information will be conducted from the weavers at their workplace which will help the researcher to observe their living conditions. The interview schedule will consists of both open and close ended questions to obtain the desired information. In the view of objectives, the schedule was divided into following categories to cover various aspects of the study.

- **General information about the weavers**

  This section comprises the general information about the weaver such as, name, religion, gender. Information will be collected about the respondent's family type, number of family members etc. This section also dealt with socio-economic components such as educational qualification, income, number of earning members, job other than weaving, mode of payment and employment.

- **Manufacturing process**

  Question in this section will be consist information related to *pattu*. The questions will be based on the, raw materials, designs, colour combination, techniques, and process in *pattu* weaving.

- **Marketing practices**

This section dealt with the marketing practices related to this craft. Investigator will ask questions regarding marketability of *pattu* textiles, profit margin, and current market trends.

- **Changes and development**

In this section, questions will comprise about the changes in *pattu* weaving in terms of its procedure, technical details and marketing. With the help of these questions the researcher will get to know about the present status of this craft and the factors which are responsible for the changes.

- **Problem of weavers**

In last section, problems of *pattu* weavers will be identified related to raw materials, finance, and change in fashion trends etc. The researcher will also suggest ways so that young generation is interested to continue their hereditary craft. Role of governmental and non- governmental organisations will also be identified.

3.2.5 Data analysis

The data collected from observation checklist and through interview schedule is qualitative in nature**.** The responses from the interview schedule and observation schedule will be coded and tabulated systematically. Frequency and percentage will be calculated for each question, as most of the data is descriptive in nature. A comparative analysis will be done between weaving techniques of Barmer, Jaisalmer and Jodhpur districts highlighting changes in the craft from past.

3.3 Step II: Design intervention

3.3.1 Development of women's indo western garments through weaving, printing and embellishment techniques

The art of*pattu*weaving is only limited to shawls, blankets and *kurtis*. Thus, an attempt will be done to adapt the designs of *pattu* weave in block printing and embellishment technique and develop a garment line of Indo-western outfits in weaving, printing and embellishing techniques for market diversification.Former research on *pattu* revealed that a NGO UrmulMarusthaliVikasSamiti (UMBVS) at Pokaran is working for the promotion of this

craft. Weavers of many villages around Pokharan were working under this NGO. Here new designs and products were also developed such as *dupatta, kurtis,* cushion covers and bags. Whereas, weavers of Barmer districts work under master craftsperson.In Barmer, garments are not manufactured in *pattu*, only shawls and *pattu* cloth is manufactured. It was felt that designing part of these weavers is quite weak. Also, financial conditions of these weavers are not sufficient. Therefore, in order to impart some skills, new designs will be developed from weavers of Barmer for developing garments using *pattu* designs in weaving technique.

The garments will be designed and developed for the women in the age group of 21-30 years.

3.3.1.1 Design collection

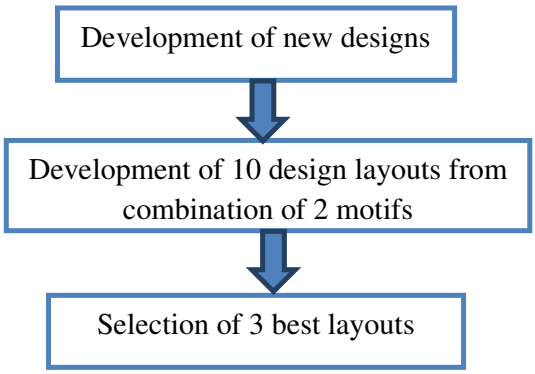
The design used in *pattu* weaving will be collected from the weavers during the field study. Designs in *pattu* are placed in the form of border in which small geometrical patterns will be created with the use of extra weft technique by passing extra weft from minimum two to twelve picks. These designs will be recorded on the graph paper. The motifs will be analysed (on the graph paper). Graph paper will be taken to make the graphical presentation of designs represented by coloured patterns.

3.3.1.2 Design development and colour selection

New designs will be created by the researcher which will be inspired from old *pattu* designs. The motifs of *pattu* weaves will be adapted and transferred in printing and embellishing techniques.Tencombination design layouts will be developed from the combination of two motifs. Out of these ten combination layouts, three layouts will be selected by the panel of 10 judges.The judges will be textile experts. Judges will give their view using five point rating scale. The ranks will be assigned as follows:

Excellent-5, Very good-4, Good-3, Fair-2, Poor-1

Result will be recorded by calculating weighted mean score.



3.4 Steps involved in design layouts

In *pattu* weaving extra weft is inserted on the ground weave, therefore for base colour four traditional colours will be chosen in warp and weft which are majorly used by the weavers. Selected four colours dyed samples will be shown to panel of judges which are majorly used by *Pattu* weavers. Judges will select only one colour using three point rating scale for the manufacturing of fabrics. Similar procedure will be followed to choose the colour for extra weft. The ranks will be assigned as follows

Very good-3, Good-2, Fair -1.

To quantify the data regarding colour preferences, weighted mean score will be calculated.

3.3.1.3 Designing

A line of indo western garment will be designed by the researcher using *pattu*motifs.Garments are planned by exploring the current market trends in Indo western dresses. Designing of 12 garments will be done. Following indo-western outfits are planned on the basis of current trends.

1. *Kurta* with plain skirt
2. Top with skirt
3. Long Jacket with skirt
4. *Kurti* with plazzo
5. Top with plazzo
6. Blouse with plain saree
7. Poncho with saree
8. Stitched saree

9. Gown
10. *Kurta* with jeans
11. Crop top with plazzo and jacket
12. *Kurta* with jacket and pant

For the development of garments using *pattu* designs, 6 garment styles will be selected out of 12 styles by 10 panel of judges. The judges will give their view using five point rating scale. The ranks will be assigned as follows:

Excellent-5, Very good-4, Good-3, Fair-2, Poor-1

Result will be recorded by calculating weighted mean score.

3.3.1.4 Measurement

Indo western garments will be designed for the age group of 21 to 30 years. StandardIndian measurement size chart will be followed to design indo western outfits for young women. Size M will be used to develop dresses.

3.3.1.5 Designing pattern layout on CAD

The layouts will be developed as per the style of the garment in Adobe Photoshop. Selected three design layoutswill be placed on the six garment style patterns.

	INDO-WESTERN GARMENT STYLES					
Design layout	G1	G2	G3	G4	G5	G6
L1	G1L1	G2L1	G3L1	G4L1	G5L1	G6L1
L2	G1L2	G2L2	G3L2	G4L2	G5L2	G6L2
L3	G1L3	G2L3	G3L3	G4L3	G5L3	G6L3

3.5 Combination of design layout with garment styles

The pattern layouts will be shown to ten panel of judges and one layout for each garment style will be selected using five point rating scale. Result will be recorded by calculating weighted mean score.The ranks will be assigned as follows:

Excellent-5, Very good-4, Good-3, Fair-2, Poor-1

Selected pattern layout will be used to develop indo-western outfits through three techniques which are weaving, printing and embellishment.

3.3.1.6 Manufacturing of fabric

For the development of garment using *pattu* motifs in weaving technique, the layouts will be explained to the weavers. Dyeing of cotton yarns will be done in the dyeing units of Barmer. After dyeing the fabrics will be manufactured from weavers of Barmer districts. Pit loom will be used to develop fabrics.

To develop the garment using printing technique, block printing will be done on plain cotton fabric. Similarly embellishment will be done on cotton fabric using *pattu* designs.

3.3.1.7 Garment development

Total number of 18 garments will be constructed, 6 from each technique after the manufacturing of fabric. Cost of each designer garment will be calculated based on their manufacturing cost plus cost of labour along with profit margin.

3.3.1.8 Acceptability of the developed products

To get the acceptability of the developed garment line, the outfits will be shown to 50 consumers. The outfits will be displayed in the garment shop and consumers in the shop will be asked to give their rating. Aranking scale will be prepared in which respondents will be requested to rate the products on the basis of their colour combination, design, overall appearance, cost and neatness. Respondent's name, age and profession will also be noted. Rating will be given using five point rating scale. The ranks were assigned as follows.

Excellent-5, Very good-4, Good-3, Fair-2, Poor-1

Acceptability index will be used to access the percentage acceptability of each garment.

$$\text{Acceptability index} = \frac{\text{maximum accepting frequency} \times 100}{\text{Total score}}$$

3.4Limitations of the study

- The study is only limited to *pattu* textiles of Barmer, Jaisalmer and Jodhpur districts of western Rajasthan.

- For product diversification, only cotton yarns will be used.
- The product is only limited for the age group of 21-30 years.
- The study is only restricted for designing of indo-western outfits.

3.5 Pilot study

A preliminary study was conducted by the researcher in order to evaluate the feasibility of the topic. The study was done at Jaisalmer district. To conduct further research all the information was gathered from the master weaver at Jaisalmer district, related to number of weaving units, procedure in weaving *pattu*, materials used, design, motifs and major change in *pattu* textiles from past.

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